

sub-regions associated with subcategories, e.g., a comedies sub-region 423 within movies region 420. The regions may be identified by a suitable label located on or proximate to the respective region, e.g., the “News” label 424 and the “Sports” label 426. When an active map item is selected by the end user, the system may generate a suitable selection graphic and/or change the appearance of the selected map item such that the selected map item is visibly distinct from the remaining map items. FIG. 4 depicts one such selected and active map item 428. In response to the selection of a particular map item, a number of guidance indicators 430 may be rendered on map 402. As described above, a practical embodiment generates a separate indicator representing up, down, left, and right directional controls.

[0093] Navigation control tool 404 may include any number of direction control elements 432, such as the North, South, East, and West arrows shown in FIG. 4. Zoom control tool 406 may include any number of elements for controlling and/or indicating the zoom level for map 402. For example, zoom control tool 406 may include a decrease zoom level (or zoom out) control element 434, an increase zoom level (or zoom in) control element 436, and any number of selectable elements representing specific zoom levels, e.g., a minimum zoom level element 438 and a maximum zoom level element 440. In the preferred embodiment, zoom control tool 406 highlights or otherwise indicates the current zoom level of map 402 (as depicted by the darkened current zoom level element 442).

[0094] Map item information element 408 may include information or data relating to the currently selected map item. As described above in connection with information element 106, element 408 may include past, present, and/or future broadcasting information for the selected station or channel. In contrast, content description element 410 may display information or data relating to the particular content available at the current time on the selected station or channel. For example, while map item information element 408 may display a programming schedule for a television station, content description element 410 may provide information related to the current program on that television station. In this respect, content description element 410 may provide a summary of the program or media being broadcast, the broadcast time, or the like.

[0095] As described above, preview area 412 enables end users to experience the content currently associated with the selected map item. If the content is a video program or an image, then preview area 412 may be configured as a small display screen. If the content is an audio clip, then preview area 412 may be inactive or it may display audio control elements or any visual image while the audio plays.

[0096] General System Environment

[0097] FIG. 5 is a schematic representation of a navigation interface display system 500 in which the techniques of the present invention may be implemented. System 500 is suitably configured to produce, maintain, update, and control the navigation interface display and the dynamic maps described above. System 500 is depicted in a generalized manner to reflect its flexible nature and ability to cooperate with any number of different communication systems, service providers, and display devices. System 500 may include any number of presentation layers 502 (each preferably having an associated presentation device, display element,

and application server), one or more map servers 504, one or more application databases 506, one or more map databases 508, and a suite of producer tools 510. In the context of FIG. 5, and for purposes of the example embodiment described herein, system 500 is associated with a particular system administrator, e.g., a cable television provider. Accordingly, some of the elements shown in FIG. 5 may be owned and/or maintained by the service provider.

[0098] As used herein, a “server” refers to a computing device or system configured to perform any number of functions and operations associated with navigation interface display system 500. Alternatively, a “server” may refer to software that performs the processes, methods, and/or techniques described herein. From a hardware perspective, system 500 may utilize any number of commercially available servers, e.g., the IBM AS/400, the IBM RS/6000, the SUN ENTERPRISE 5500, the COMPAQ PROLIANT ML570, and those available from UNISYS, DELL, HEWLETT-PACKARD, or the like. Such servers may run any suitable operating system such as UNIX, LINUX, or WINDOWS NT, and may employ any suitable number of microprocessor devices, e.g., the PENTIUM family of processors by INTEL or the processor devices commercially available from ADVANCED MICRO DEVICES, IBM, SUN MICROSYSTEMS, or MOTOROLA.

[0099] The server processors communicate with system memory (e.g., a suitable amount of random access memory), and an appropriate amount of storage or “permanent” memory. The permanent memory may include one or more hard disks, floppy disks, CD-ROM, DVD-ROM, magnetic tape, removable media, solid state memory devices, or combinations thereof. In accordance with known techniques, the operating system programs and any server application programs reside in the permanent memory and portions thereof may be loaded into the system memory during operation. In accordance with the practices of persons skilled in the art of computer programming, the present invention is described below with reference to symbolic representations of operations that may be performed by one or more servers associated with system 500. Such operations are sometimes referred to as being computer-executed. It will be appreciated that operations that are symbolically represented include the manipulation by the various microprocessor devices of electrical signals representing data bits at memory locations in the system memory, as well as other processing of signals. The memory locations where data bits are maintained are physical locations that have particular electrical, magnetic, optical, or organic properties corresponding to the data bits.

[0100] When implemented in software, various elements of the present invention are essentially the code segments that perform the various tasks. The program or code segments can be stored in a processor-readable medium or transmitted by a computer data signal embodied in a carrier wave over a transmission medium or communication path. The “processor-readable medium” or “machine-readable medium” may include any medium that can store or transfer information. Examples of the processor-readable medium include an electronic circuit, a semiconductor memory device, a ROM, a flash memory, an erasable ROM (EROM), a floppy diskette, a CD-ROM, an optical disk, a hard disk, a fiber optic medium, a radio frequency (RF) link, or the like. The computer data signal may include any signal that can